

## REMARKS

Applicant respectfully requests reconsideration of this application as amended.

### Office Action Rejections Summary

Claims 19-21, 23-29, 32-35, 39-41 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,815,427 of Cloud et al. ("Cloud") in view of U.S. Patent No. 6,021,469 of Tremblay ("Tremblay").

Claims 22, 30-31 and 36-38 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Cloud.

Claim 25 has been objected to as being of improper dependent form for failing to further limit the subject matter of a previous claim.

### Status of Claims

Claims 19-24 and 26-38 are pending in the application. No claims have been amended. The amended claims are supported by the specification. No claims have been added. No new matter has been added. Claims 25 and 39-41 have been canceled.

### Claim Rejections

Claims 19-21, 23-29 and 32-35 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Cloud in view of Tremblay. In response to the applicant's argument, the Office Action states:

In response to applicant's argument that data cache 165 and instruction cache 125 are not the same memory storage and the interfaces of Tremblay are used to operate the different memory storage (see applicant's remarks on page 10), the examiner agrees that the data cache 165 and instruction cache 125 are not the same memory storage, however, the interfaces (I/O controller interfaces 111, **memory controller interfaces 112** and instruction cache unit interface 120 as taught as in col. 11, lines 23-35 and col. 17, lines 44-45) **of Tremblay are used to operate the same memory storage instruction cache 125** as shown in Fig. 1.

(Office Action, 11/5/03, p. 8)(emphasis added)

Applicant submits that the memory controller interface 112 is not used to operate instruction cache 125. Rather, memory controller interface 112 is used to interface data cache 165 with an external memory. Accordingly, applicant maintains that the interfaces of Tremblay are used to interface with **different** memory storage units.

In addition, applicant respectfully submits that the Office Action did not address applicant's argument that **Tremblay teaches away from combination with Cloud because Tremblay teaches away from the use of additional on die memory storage.** As such, applicant submits that one of skill in the art would not be motivated to combine the teachings of Cloud and Tremblay as purported by the Examiner. One of the objects of the teachings in Tremblay is to reduce the expense associated with memory storage on a hardware processor. (Tremblay, col. 6, lines 3-4 and lines 20-27). In particular, Tremblay advocates the advantage that additional memory storage typically required by a software interpreter is eliminated from the hardware processor 100 described therein. Therefore, one of skill in the art, facing the problems confronting the inventor of Cloud, would not be motivated to look to the teachings of Tremblay because Tremblay teaches away from the use of additional on die memory storage. **Applicant respectfully requests the Examiner to address this argument in the next office action if the Examiner continues to purport there is a motivation to combine the cited references.**

In addition, modifying Cloud to put the memory storage and the different interfaces on a common die would require substantial reconstruction and redesign of the elements shown in Cloud as well a change in the basic principle under which the **modular** architecture of Cloud was designed to operate. See MPEP 2143.01, *In re Ratti*, 270 F.2d. 810 (CCPA 1959). Moreover, Cloud teaches away from integration of component functions by stating that custom integrated circuits may be difficult and costly to produce. (Cloud, col. 1, lines 56-58). Furthermore, one of the advantages stated by Cloud of the modularity of its invention is the ability to form circuits from partially

defective modules. (Cloud, col. 2, lines 15-16). This further evidences that one of skill in the art, confronted with the same problems as the inventor of Cloud and with no knowledge of the applicant's invention, would not combine elements from Tremblay in the manner purported by the Office Action to put the memory storage and the three different interfaces on a common die. See *In re Rouffet*, 149 F.3d 1350 (Fed. Cir. 1998). **Applicant also respectfully requests the Examiner to address this argument in the next office action if the Examiner continues to purport there is a motivation to combine the cited references.**

In contrast to the cited references, in each of claims 19, 26 and 32, the three different interfaces operate the same memory storage in at least one of three different modes and all reside in a common die. Therefore, applicant submits that each of claims 19, 26, and 32 (and their dependent claims) are patentable over the cited references.

Given that claims 22, 30-31 and 36-37 depend from a respective one of claims 19, 26 and 32, applicant submits that claims 22, 30-31 and 36-37 are patentable over the cited references for reasons given above.

Claim 38 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Cloud. Applicant respectfully submits that **the Office Action did not address applicant's argument that Cloud teaches away** from the use of a flash memory device and, therefore, there is no motivation to combine the cited references based on the teachings of Cloud in the manner purported by the Examiner. As previously stated, one of the problems confronting the inventors of Cloud, and advantages of the teachings of Cloud, is cost effectiveness. (Cloud, col. 2, lines 1-16). The types of memory devices that Cloud discloses are inexpensive volatile memory devices that lose their stored data when power to the memory is removed. In contrast, a flash memory device is a non-volatile memory device that retains the contents of data stored within it even after power to the memory is removed. Such a technological feature tends to make flash memory

more expensive than volatile memory devices such as the SDRAM and DRAM devices taught by Cloud. As such, one of skill in the art would not be motivated to look to flash memory devices for solutions to the problems facing the inventors of Cloud due the cost prohibition of flash memory devices in achieving a cost effective solution as required by Cloud. As such, it would not be obvious to combine a flash memory with the teachings of Cloud. Therefore, applicant respectfully submits that claim 38 is patentable over Cloud. **Applicant respectfully requests the Examiner to address this argument in the next office action if the Examiner continues to purport there is a motivation to combine the cited references.**

In conclusion, applicant respectfully submits that in view of the arguments and amendments set forth herein, the applicable objection and rejections have been overcome.


If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Daniel Ovanezian at (408) 720-8300.

If there are any additional charges, please charge our Deposit Account No. 02-2666.

Respectfully submitted,

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